

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2004/005524

International filing date (day/month/year)  
21.05.2004

Priority date (day/month/year)  
23.05.2003

International Patent Classification (IPC) or both national classification and IPC  
B01D15/08, G01N30/60

Applicant  
AMERSHAM BIOSCIENCES AB

#### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/005524

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/005524

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	claims 1-9
Inventive step (IS)	Yes: Claims	
	No: Claims	claims 1-9
Industrial applicability (IA)	Yes: Claims	claims 1-9
	No: Claims	

2. Citations and explanations

**see separate sheet**

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : EP 0 815 911 A (UNIV SOUTHERN MISSISSIPPI ; TENNESSEE VALLEY  
AUTHORITY (US)) 7 January 1998 (1998-01-07)

D2 : FR 2 573 532 A (GROUPE INDL REALISA APPLIC) 23 May 1986 (1986-05-  
23)

D3 : US 4 891 133 A (COLVIN JR ARTHUR E) 2 January 1990 (1990-01-02)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document) an improved process for a chromatographic separation. The columns which can be used for making said process are described (see page 7, line 46-page 8, line 11, and figure 6); said columns comprise a first end plate, and a movable portion with a flexible conduit 604 on figure 6. Since said flexible conduit is preferably made of silicon or Teflon tubing, it is evident that it can slide through the opening.

Document D2 discloses some improvements for chromatographic columns, whereby a piston can slide within the column (see figures) for compacting the adsorbent or packing element. Said piston, which forms the said movable adapter mentioned in the present application, is connected to an end plate via a flexible conduit 7 (see figures 3,4) or 7' (see figure 6), said conduit being itself connected to another conduit 13 outside the column. This conduit seems also to slide through the opening, so that the skilled person can make said compacting operation of the packing element.

In Document D3, an embodiment which falls within the scope a present claim 1 is disclosed: it does not seem to be the intention of the applicant with regards to the embodiments disclosed in the figures, to claim a chromatography column where a movable adapter can be moved thanks to a threaded member, such as the one disclosed in D3, said adapter further being provided with a flexible conduit, which can slide through an opening in an end plate, for bringing liquid. However, this

embodiment falls within the scope of present claim 1, since D3 discloses a column having two end plates and a movable adapter, said movable adapter being connected to a duct which can slide through an opening of an end plate, said duct being flexible.

**2.2. DEPENDENT CLAIMS 2-9**

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).